Claim Amendments

Claim 1 (currently amended): An electron gun comprising:

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an RF cavity having a first side with an electron emitting surface and a second side with [[a]] an electron transmitting and emitting section; and

a mechanism for producing an oscillating force which ~~encompasses~~ is applied to the emitting surface and the transmitting and emitting section so electrons are directed between the emitting surface and the transmitting and emitting section to contact the emitting surface [and] generate additional electrons and to contact the transmitting and emitting section to generate additional electrons or escape the cavity through the transmitting and emitting section, with a resulting gain of electrons in a unidirectional flow after [N_{RF} periods] is [[$[\delta_2\delta_1(1-T)]^N$]] $[\delta_2\delta_1(1-T)]^{(\omega t/2\pi)}$, where ~~N is an integer greater than or equal to one,~~ δ_1[[,]] is the number of secondary electrons emitted from the emitting surface, T is the ratio of transmitted to incident electrons for the transmitting and emitting section, [and] δ_2 is the section electron secondary yield.

Claim 2 (previously presented): A gun as described in Claim 1 wherein said transmitting and emitting section isolating the cavity from external forces to the cavity.

Claim 3 (previously presented): A gun as described in Claim 2 wherein the transmitting and emitting section includes a transmitting and emitting double screen.

Claim 4 (currently amended): A gun as described in Claim 3 wherein the producing mechanism includes a mechanism for producing an oscillating electric field disposed adjacent the RF cavity that provides the oscillating force and has a radial component that confines the electrons to a region between the ~~respective~~ double screen and the ~~corresponding~~ emitting surface.

Claim 5 (currently amended): A gun as described in Claim 4 wherein the ~~respective~~ double screen is of an annular shape.

Claims 6 and 7 (canceled).

Claim 8 (currently amended): A gun as described in Claim 4 including a mechanism for producing a magnetic field disposed adjacent the RF cavity to force the electrons to stay between the ~~respective~~ double screen and the ~~corresponding~~ emitting surface.

Claim 9 (currently amended): A method for producing electrons characterized by the steps of:

moving at least a first electron in a first direction;

striking a first area with the first electron;

producing additional electrons at the first area due to at least a first electron;

moving the additional electrons from the first area to a second area; and

transmitting the additional electrons through the second area and creating $\delta_2[\delta_1(1-T)]$ secondary electrons due to the additional electrons from the first area striking the second area, where [N is an integer greater than or equal to one,] δ_1 is the number of secondary electrons emitted from the ~~emitting surface~~ second area, T is the ratio of transmitted to incident electrons for the ~~section~~ second area, and δ_2 is the ~~section~~ second area electron secondary yield.